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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/611,742	07/01/2003	John F. Kennedy	10541-1797	3470

29074 7590 03/21/2006  
VISTEON  
C/O BRINKS HOFER GILSON & LIONE  
PO BOX 10395  
CHICAGO, IL 60610

EXAMINER

HAROON, ADEEL

ART UNIT PAPER NUMBER

2618

DATE MAILED: 03/21/2006

Please find below and/or attached an Office communication concerning this application or proceeding.



## **DETAILED ACTION**

### ***Response to Amendment***

1. This Office Action is in response to Amendment filed on date: 1/19/06.

Claims 2-5, 7-8, and 10-32 are still pending.

### ***Response to Arguments***

2. The applicant argues that the examiner's assertion that a PLL is extremely well known in the art and that it would be obvious to use a PLL. The examiner now provides a reference to support his original assertion.

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 25, 28-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bainvoll (U.S. 6,075,412) in view of Nagano et al. (U.S. 6,324,385).

With respect to claim 25, Bainvoll discloses a method comprising attenuating the RF output signal using an RF attenuator circuit (Column 3, lines 5-7). Bainvoll also discloses increasing gradually power of the RF input signal (Column 2, line 59 – Column 2, line 4). The input signal in Bainvoll's system is an RF input signal; therefore, the signal must be modulated into the RF frequency before it enters Bainvoll's system. Consequently, Bainvoll does not specifically disclose a PLL to lock onto the frequency of the modulator. However, Nagano et al. teach a PLL, element number 7, to lock onto a frequency,  $f_{TX}$ , before the modulated signal's power is adjusted with element number 18 in figure 1 (Column 1, lines 48-57). Therefore, it would be obvious to one of ordinary skill in the art to use a PLL to lock onto the oscillator frequency of the FM modulator as before its power is adjusted as taught by Nagano et al. in the method of Bainvoll in order to have a stable signal.

With respect to claim 28, Nagano et al. teach a PLL, element number 7, to lock onto a frequency,  $f_{TX}$ , before the modulated signal's power is adjusted with element number 18 in figure 1 (Column 1, lines 48-57). Therefore, it would be obvious to one of ordinary skill in the art to use a PLL to lock onto the oscillator frequency of the FM

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modulator as before its power is adjusted as taught by Nagano et al. in the method of Bainvoll in order to have a stable signal.

With respect to claim 29, Bainvoll discloses a RF ramp up circuit, element number element number 290, that gradually increases the RF output signal. (Column 3, lines 7-11).

With respect to claim 30, Bainvoll discloses a time delay circuit, element numbers 240 and 260, that activates the RF ramp up circuit by sending the RF output signal to the RF ramp up circuit (Column 2, line 59 – Column 3, line 4).

5. Claims 26, 31, and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bainvoll and Nagano et al. in view of Quintanar et al. (U.S. 6,448,857).

With respect to claim 26, the modified method of Bainvoll and Nagano et al. is described above in the discussion of claim 25. Bainvoll does not expressly disclose an audio ramp up circuit. However, Quintanar et al. discloses using an audio ramp up circuit to gradually increase the power of a signal (Column 1, line 66 – Column 2, line 3). It would be obvious to one of ordinary skill in the art at the time of the applicant's invention to apply Quintanar et al.'s audio ramping technique to the system of Bainvoll in order to provide gain to composite signals while providing a slow start thus reducing noise in the system.

With respect claim 31, Bainvoll further discloses a time delay circuit, element numbers 240 and 260, (Column 2, line 59 – Column 3, line 4). It would be obvious to one of ordinary skill in the art at the time of the applicant's invention to use Bainvoll's time delay circuit to activate the audio ramp circuit in the modified method of Bainvoll and Quintanar et al. in order to provide timing control for the system.

With respect to claim 32, Nagano et al. teach a PLL, element number 7, to lock onto a frequency,  $f_{TX}$ , before the modulated signal's power is adjusted with element number 18 in figure 1 (Column 1, lines 48-57). Therefore, it would be obvious to one of ordinary skill in the art to use a PLL to lock onto the oscillator frequency of the FM modulator as before its power is adjusted as taught by Nagano et al. in the method of Bainvoll in order to have a stable signal.

6. Claim 27 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bainvoll and Nagano et al. in view of Beamish et al. (U.S. 6,445,732).

With respect to claim 27, the modified method of Bainvoll and Nagano et al. is described above in the discussion of claim 25. Bainvoll does not expressly the gain of the output signal being slower than the response rate of the automatic gain control in radio receiver. However, Beamish et al. discloses a method of gradually increasing the gain of a signal at a slower rate than the response rate of the AGC (Column 9, lines 1-9). Therefore, it would be obvious to one of ordinary skill in the art at the time of the applicant's invention to apply Beamish et al.'s technique to the system of Bainvoll in

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order to conserve power by not using excess power to increase the gain when it is not necessary.

***Allowable Subject Matter***

7. Claims 2-5, 7-8, and 10-24 are allowed.

***Conclusion***

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Adeel Haroon whose telephone number is (571) 272-

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7405. The examiner can normally be reached on Monday thru Friday, 8:30 a.m. - 5:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nay Maung can be reached on (571) 272-7882. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

AH  
3/6/06

*Nguyent*  
3-15-2006

**NGUYENT.VO  
PRIMARY EXAMINER**